CLAIMS

1.   An image processing apparatus comprising:

a plurality of code converting units for executing coding and decoding of image data;

5   a plurality of request-source task units for requesting any of said plurality of code converting units to perform a code conversion of image data, the number of task units being greater than the number of code converting units and having priorities thereof

10   set in advance; and

an assigning unit for assigning said plurality of code converting units to processing requests from request-source task units having a high priority and, if there is an idle code converting unit among the

15   plurality of code converting units, assigning the code converting unit to a processing request from a request-source task unit having a low priority.

2.   The apparatus according to claim 1, wherein said code converting units have one-to-one correspondence

20   to the request-source task units having the high priority; and

said assigning unit assigns the corresponding code processing units in accordance with the processing requests from the request-source task units

25   having the high priority.

3.   The apparatus according to claim 1 or 2, wherein code converting units, the number of which is smaller

than the number of the request-source task units
having the low priority, correspond to these request-
source task units having the low priority; and

5   said assigning unit assigns said code converting
units in a prescribed order to the processing requests
from the request-source task units having the low
priority.

4.   The apparatus according to claim 3, wherein said
code converting units are constituted by software-

10   implemented code converting units for executing code
conversion by software and hardware-implemented code
converting units for executing code conversion by
hardware; and

said assigning unit assigns said software-

15   implemented code converting units to the processing
requests of the request-source task units.

5.   The apparatus according to claim 4, wherein said
request-source task units having the high priority are
classified into a first unit group processed by said

20   software-implemented code converters and a second unit
group processed by said hardware-implemented code
converting units via said software-implemented code
converters; and

said assigning unit assigns said software-

25   implemented code converters in accordance with the
priorities and classification of said request-source
task units.

6. The apparatus according to claim 5, wherein said hardware-implemented code converting units are adapted so as to be used jointly by the request-source task units of said second unit group.

5   7. An image processing method comprising:

a processing-request issuing step of issuing a processing request to a code converting unit by any request-source task unit of a plurality of request-source task units the number of which is greater than

10 the number of a plurality of code converting units and having priorities thereof set in advance, said code converting units executing coding and decoding of image data;

a priority processing determination step of

15 receiving the processing request and determining whether the processing request issued by the request-source task unit should be processed with priority; and

an assigning step of assigning the code

20 converting units to processing requests from request-source task units determined to have a high priority and, if there is an idle code processing unit among the code converting units, assigning the code processing unit to a processing request from a

25 request-source task unit determined to have a low priority.

8. The method according to claim 7, wherein said code

converting units have one-to-one correspondence to the request-source task units having the high priority; and

said assigning step assigns the corresponding
5   code processing units in accordance with the processing requests from the request-source task units having the high priority.

9. The method according to claim 7 or 8, wherein code converting units, the number of which is smaller than
10   the number of the request-source task units having the low priority, correspond to these request-source task units having the low priority; and

said assigning step assigns said code converting units in a prescribed order to the processing requests
15   from the request-source task units having the low priority.

10. The method according to claim 9, wherein said code converting units are constituted by software-implemented code converting units for executing code
20   conversion by software and hardware-implemented code converting units for executing code conversion by hardware; and

said assigning step assigns said software-implemented code converting units to the processing
25   requests of the request-source task units.

11. The method according to claim 10, wherein said request-source task units having the high priority are

classified into a first unit group processed by said software-implemented code converters and a second unit group processed by said hardware-implemented code converting units via said software-implemented code

5   converters; and

said assigning step assigns said software-implemented code converters in accordance with the priorities and classification of said request-source task units.

10   12.   The method according to claim 11, wherein said hardware-implemented code converting units are adapted so as to be used jointly by the request-source task units of said second unit group.

13.   An image processing program comprising:

15   program code for executing a processing-request issuing step of issuing a processing request to a code converting unit by any request-source task unit of a plurality of request-source task units the number of which is greater than the number of a plurality of

20   code converting units and having priorities thereof set in advance, said code converting units executing coding and decoding of image data;

program code for executing a priority processing determination step of receiving the processing request

25   and determining whether the processing request issued by the request-source task unit should be processed with priority; and

program code for executing an assigning step of

assigning the code converting units to processing

requests from request-source task units determined to

have a high priority and, if there is an idle code

5   processing unit among the code converting units,

assigning the code processing unit to a processing

request from a request-source task unit determined to

have a low priority.

14.   The program according to claim 13, wherein said

10   code converting units have one-to-one correspondence

to the request-source task units having the high

priority; and

the program code for executing said assigning

step includes code for assigning the corresponding

15   code processing units in accordance with the

processing requests from the request-source task units

having the high priority.

15.   The program according to claim 7 or 8, wherein

code converting units, the number of which is smaller

20   than the number of the request-source task units

having the low priority, correspond to these request-

source task units having the low priority; and

the program code for executing said assigning

step includes code for assigning said code converting

25   units in a prescribed order to the processing requests

from the request-source task units having the low

priority.

16.   The program according to claim 15, wherein said code converting units are constituted by software-implemented code converting units for executing code conversion by software and hardware-implemented code

5   converting units for executing code conversion by hardware; and

the program code for executing said assigning step includes code for assigning said software-implemented code converting units to the processing

10   requests of the request-source task units.

17.   The program according to claim 16, wherein said request-source task units having the high priority are classified into a first unit group processed by said software-implemented code converters and a second unit

15   group processed by said hardware-implemented code converting units via said software-implemented code converters; and

the program code for executing said assigning step includes code for assigning said software-

20   implemented code converters in accordance with the priorities and classification of said request-source task units.